Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
Emergency Communications by	)	
Amateur Radio and Impediments	)	GN Docket No. 12-91
To Amateur Radio Communications	)	

COMMENTS OF ARLINGTON COUNTY, VIRGINIA
OFFICE OF EMERGENCY MANAGEMENT

Emergency Communications by Amateur Radio and Impediments to Amateur Radio Communications

The Arlington County, Virginia Office of Emergency Management supports the removal of impediments to Amateur Radio communications as identified in the Commission's Public Notice 12-523 dated April 2, 2012 pursuant to Public Law 112-96.

Importance of emergency Amateur Radio Service Communications

Arlington County, Virginia is home to many federal and local government facilities, including the Pentagon, Arlington National Cemetery, and Ronald Reagan National Airport. The Arlington County Office of Emergency Management (Arlington OEM) has gained considerable experience working with Amateur Radio Service volunteers over many years. Specifically, Arlington OEM has adopted the *Radio Amateur Civil Emergency Service* protocol outlined under Part 97 of the Commission's Amateur Radio Service regulations, 47 C.F.R. § 97.407 (RACES) because RACES provides a volunteer, training and deployment platform that focuses entirely on the needs of the served agency.

Based on our experience with RACES Amateur Radio Service volunteers, Arlington OEM offers answers to the Commission's questions published in its Public Notice.

Question 1a: What are examples of disasters, severe weather, and other threats to life and property in which the Amateur Radio Service provided communications services that were important to emergency response or disaster relief? Provide examples of the important benefits of these services.

Answer: There are countless examples throughout the history of our nation that demonstrate the intrinsic value of trained Amateur Radio operators providing auxiliary emergency communications to local, county and state governments, (directly impacting their constituents), as well as to the Red Cross and other related volunteer disaster response groups, after significant weather events or incidents. There are regions of our nation that experience, almost annually, significant weather events such as hurricanes, tornadoes, extreme ice storms, flooding from severe rainstorms, and wildfires. In those regions Amateur Radio volunteers have established well-trained, deployable auxiliary

emergency communications teams that directly support served agencies of state and local governments, including forest wild fire fighting in California; flooding in the Midwest, hurricanes in the Gulf states and Mid-Atlantic, as well as ice storms in the Southwest and Mid-Atlantic regions, including flash floods and other severe weather events that affect the Eastern states.

Question 1b: Under what circumstances does the Amateur Radio Service provide advantages over other communications systems in supporting emergency response or disaster relief activities? Under what circumstances does the Amateur Radio Service complement other forms of communications systems for emergency response or disaster relief?

Answer: Amateur Radio operators, who have been trained to assist local and state emergency management agencies using Amateur Radio spectrum, become a force multiplier, which allows professional public safety communications personnel to prioritize use of government radio systems to life-safety and critical incident communications. Like certain military communication operations, Amateur Radio operators use equipment that is frequency-agile, i.e. non-channelized transceivers that allow the use of one or more individual radio frequencies within a larger band of frequencies.

Frequency agility provides additional spectrum and flexibility advantages over assigned public safety frequency allocations, which are typically channelized and may, on as-needed basis, supplement existing local government and commercial land mobile networks, depending on the specific circumstances of the incident. For example, Amateur Radio operators can be deployed to relay resource needs and assistance requests to public safety answering points when public safety radio frequencies and/or public switched telephone networks (PSTN) and Internet are either overwhelmed, have failed or are otherwise unavailable. Thus, Amateur Radio is the conduit which permits volunteer resources, non-governmental organizations (NGOs) and commercial communication systems personnel, who would otherwise be without communications, or whose emergency response activities would be hindered by incompatible radio systems, to provide assistance to served agencies.

The advantages of Amateur Radio are many: Its high frequency signals, transmitted and received between approximately 3 MHz to 30 MHz (HF) can be used to span long distances via ionosphere refraction, bypassing nearby areas that can also be affected by the same emergency. Local and regional communications can be supported using direct radio contacts as well as the many Amateur Radio repeaters already in place and operating at very high frequencies (VHF) and ultra high frequencies (UHF).[1]

Direct communication Amateur Radio operators are available to handle message traffic, where municipal networks may either have limitations on the number of support staff and/or radio channel available, or the actual radios may be in short supply due to the

[1] Typically VHF includes frequencies between 30 MHz and 300 MHz and UHF includes frequencies between 300 MHz and 3 GHz.

needs of the emergency, damaged, unable to be recharged (as was the case in the Gulf states region during Hurricane Katrina), or simply that the jurisdiction staff is overwhelmed and unable to support a long duration response with available staff and equipment necessitates assistance from auxiliary communications services (ACS).

These are not potential uses of Amateur Radio; these are examples of auxiliary emergency communications services currently provided by Amateur Radio operators serving government agencies through various ACS platforms such as RACES, which is sanctioned by Part 97 of the Commission's regulations, executed pursuant to Federal Emergency Management Administration (FEMA) and Commission recommendations, and administered by city, county, or state agencies, such as RACES, or where government administration has not occurred or is arguably deficient, ad hoc groups of volunteers have provided communications services: Amateur Radio Emergency Service, administered by volunteers associated with the American Radio Relay League, Inc. (ARES)[2]; Salvation Army Team Emergency Radio Network (SATERN); and Radio Emergency Associated Communications Teams, which is made up of citizen band radio volunteers (REACT). Working closely with local municipalities, state or other agencies, Amateur Radio operators handle telecommunications needs as directed by the served agency(s).

Question 1c: What Federal Government plans, policies, and training programs involving emergency response and disaster relief currently include use of the Amateur Radio Service? What additional plans, policies, and training programs would benefit from the inclusion of Amateur Radio Service operations? How would Amateur Radio Service operations fit into these plans and programs?

Answer: The Commission and FEMA once provided guidance for state and local governments addressing how best, initially, government agencies could begin to build viable ACS volunteers composed of Amateur Radio operators. The initial basic guidance included specific *call sign* and *frequencies* for use by RACES volunteers. Over the years the Commission allowed the guidance to remain intact but eventually eliminated special call signs and frequencies.

More recently, the Commission and FEMA, in cooperation with the Department of Homeland Security (DHS), could enhance the excellent, but dated, guidance sections with specific training modules that could be added to the DHS National Incident Management System training. Training modules for government supervisors of Amateur Radio volunteers and volunteer training modules for Amateur Radio operators would, in the opinion of Arlington OEM, greatly benefit the Amateur Radio Service in carrying out its emergency communications mandate.

Question 1d: What State, tribal, and local government plans, policies, and training programs involving emergency response and disaster relief currently include use of

[2] Arlington OEM is under the impression that, unlike Arlington OEM RACES volunteers, many ARES groups have added the acronym "RACES" to their team monikers, but that some ARES groups neither embrace the Commission's RACES Part 97 regulations nor fulfill a served-agency role for local agencies.

the Amateur Radio Service? What additional plans and programs would benefit from the inclusion of Amateur Radio Service operations? How would Amateur Radio Service operations fit into these plans and programs?

Answer: Arlington County Government's Disaster Recovery plans include the use of its RACES ACS (RACES ACS). Arlington OEM provides direct government supervision of its RACES volunteers based upon the guidance provided by the Commission and FEMA. Arlington OEM developed customized training modules for its volunteers (see www.w4ava.org/training.htm[3]) based, in part, upon well-developed training modules from California ACS and other high performance ACS volunteer groups across the nation. To date, Arlington OEM RACES ACS volunteers have shared these training modules with over 50 state, county and local ACS teams across the nation.

Question 1e: What changes to the Commission's emergency communications rules for the Amateur Radio Service (Part 97, Subpart E) would enhance the ability of amateur operators to support emergency and disaster response? In addition, are there any specific changes that could be made to the technical and operational rules for the Amateur Radio Service (Part 97, Subparts B, C, and D) that would enhance the ability of amateur operators to support emergency and disaster response? What other steps could be taken to enhance the voluntary deployment and effectiveness of Amateur Radio Service operators during disasters and emergencies?

Answer: Standardized volunteer training to provide a level set of skill-sets that would better enable deployments outside local and regional locations. Local governments would provide customized training pursuant to FEMA standards to augment the training required for volunteer registration with a served agency. The Commission could provide an endorsement to Amateur Radio licenses upon submission by a licensee of a certification issued by a served agency demonstrating that the licensee has successfully completed examination for knowledge of local and national training standards. The served agency would forward the documentation to DHS/FEMA, which would in turn submit an endorsement authorization to the Commission. The Commission would then issue an updated license bearing an emergency communication endorsement (EMCOMM License Endorsement).

Arlington OEM submits with this filing a copy of a white paper entitled *Replacing RACES With An Amateur Radio License Endorsement*, which discusses the EMCOMM License Endorsement in greater detail.

Question 1f: What training from government or other sources is available for Amateur Radio Service operators for emergency and disaster relief communications? How could this training be enhanced? Should national training standards be developed for emergency communications response?

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[3] With the intention of precluding any related burden on taxpayers, Arlington OEM RACES volunteers have created an incorporated radio club and Internet site to support the availability of training materials, which are available to other ACS Amateur Radio operators across the nation.

Answer: Standardization of training material and the need for concise, complete and FEMA endorsed training plans is essential for Amateur Radio volunteers to be of value when needed by served agencies.

Question 1g: What communications capabilities, *e.g.*, voice, video, or data, are available from Amateur Radio Service operators during emergencies and disasters? Are there any future technical innovations that might further improve the Amateur Radio Service?

Answer: Voice, and relatively low speed data, such as radioteletype, PSK31, and Morse Code have proved effective and equipment to support the use of these modes of communication by Amateur Radio operators deployed by served agencies are widely available. Due to the narrow bandwidth available, Amateur Radio services are not well suited for streaming video or other enhanced wideband data transmissions. During the initial early hours of a major incident or event, voice transmissions are most valuable.

Question 1h: Are national standards in data transmission needed to enhance the ability of Amateur Radio Service operators to respond to emergencies and disasters? Are there restrictions with regard to transmission speeds that, if removed, would increase the ability of operators to support emergency/disaster response? If so, what issues could arise from removing these restrictions?

Arlington OEM submits no response to Question 1h.

Question 1i: Would it enhance emergency response and disaster relief activities if Amateur Radio Service operators were able to interconnect with public safety land mobile radio systems or hospital and health care communications systems? What could be done to enable or enhance such interconnections? What issues could arise from permitting such interconnections?

Arlington OEM submits no response to Question 1i.

Question 1j: Should there be national certification programs to standardize amateur radio emergency communications training, mobilization, and operations? How would such programs improve emergency communications?

Answer: As stated above in our *Answer to Question 1e*, local and county agencies should customize volunteer EMCOMM training requirements to satisfy specific emergency preparedness and response needs of the served agencies. Once FEMA and the Commission establish a national certification protocol, standardized training could be adopted, with Amateur Radio ACS assets receiving additional local training to satisfy the needs and expectations of served agencies.

Impediments to enhanced Amateur Radio Service communications.

Question 2a: What private land use restrictions on residential antenna installations have amateur radio operators encountered? What information is available regarding the prevalence of such restrictions? What are the effects of unreasonable and unnecessary restrictions on the amateur radio community's ability to use the Amateur Radio Service? Specifically, do these restrictions affect the amateur radio community's ability to respond to disasters, severe weather, and other threats to lives and property in the United States? What actions can be taken to minimize the effects of these restrictions?

Answer: Arlington OEM has observed that, generally, restrictive covenants and rules adopted by homeowners and/or neighborhood associations (collectively, "covenants and/or HOA rules") as well as other voluntary restrictions, contractual or otherwise, create an impediment to Amateur Radio operators who reside in residential developments constructed over the past 30 years, including suburban neighborhoods adjacent to large metropolitan areas such as Washington, D.C. and Baltimore, Maryland. This trend is disturbing considering the demonstrated effectiveness of Amateur Radio operators in providing EMCOMM services and attractiveness of the greater District of Columbia, including Arlington County,[4] area as a target of terrorism.

In general, restrictions affecting Amateur Radio antennae are known prior to the purchase or lease of a home. Amateur Radio operators sacrifice EMCOMM readiness to covenants and HOA rules so that they may obtain suitable housing for themselves and/or their families.[5] Some covenants and/or HOA rules that ban outdoor antennas include exceptions for small antennas designed for reception of terrestrial TV signals as well as small satellite dishes. Nevertheless, similar sized antennas designed to receive Amateur Radio signals on the 70 cm and 144 MHz are frequently banned by these same covenants and/or HOA rules.

Some amateur operators use Internet connections to remotely operate HF radio equipment at distant locations where their transmitter, receiver and antenna are installed. Some Amateur Radio clubs have established Internet remote stations. However, because of costs involved,[6] such stations are few compared to the more than 700,000 Amateur Radio licensees in the United States, and it seems unlikely that most Amateur Radio operators would own or have access to property that can support an Amateur Radio station operated remotely via the Internet. Therefore, the use of remotely operated stations via the Internet is not a viable option to covenants and/or HOA rules for most Amateur Radio licensees.

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[4] The Pentagon, which was attacked by terrorists on September 11, 2001, is located in Arlington County.

[5] Buyers and lessees consider a number of factors in deciding on a particular home, e.g. price, crime levels, proximity to employment, and their educational needs and those of their children.

[6] Arlington OEM estimates that the cost of establishing a modest Internet remote station, not including the purchase of additional land and taxes thereon, is two to three times the cost of a typical home-based Amateur Radio station.

Arlington OEM respectfully requests that the Commission consider revisiting its 1985 Memorandum Opinion & Order, which requires local governments to reasonably accommodate Amateur Radio operations, while allowing governments to zone for height, safety and aesthetics concerns. 101 FCC 2d 952 (1985) (hereafter referred to as "PRB-1"). However, PRB-1 does not address the issue of restrictive covenants that prevent many Amateur Radio operators from installing outdoor antennae. Considering the immense pool of trained communicators that would be available to assist government agencies with emergency communications, Arlington OEM strongly suggests that the Commission enhance PRB-1 by expanding its language to cover covenants and/or HOA rules subject only to reasonable height, safety and aesthetic considerations of neighborhood architectural review committees. Such an enhancement would be consistent with fairness and the existing mandate of PRB-1.

Arlington OEM respectfully requests that an enhanced PRB-1 articulate a preference for approval under zoning laws as well as covenants and/or HOA rules where an Amateur Radio licensee demonstrates that he or she holds an EMCOMM License Endorsement as outlined in Arlington OEM's answer to Question 1e. Enhanced in this way, PRB-1 would fairly balance the interests of zoning authorities and HOA members with the Commission's interest in maintaining a pool of trained radio operators who are adequately equipped to provide EMCOMM services to our communities and the nation.

Questions 2b through 2f

Arlington OEM submits no responses to Questions 2b, 2c, 2d, 2e or 2f.

Respectfully submitted,

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